

Goble, Colin
Serial No. 10/642,290

REMARKS

Reconsideration of this application is respectfully requested.

Claims 1-5 and 11-17 are pending in the application. Upon entry of this Amendment, claims 1, 12, 15 and 17 will be amended, and new claim 18 will be added. Claims 6-10 have been withdrawn from consideration.

Allowable Subject Matter

First of all, the Examiner is thanked for indicating in the outstanding Office Action of October 20, 2005 that objected-to claims 12, 13, 15 and 16 would be allowable if rewritten in independent form to include all of the limitations of the base claim and any intervening claims. Claims 12 and 15 have now been so amended. In view of these amendments to claims 12 and 15, and the dependency of claims 13 and 16 from claims 12 and 15, respectively, such claims should now be in condition for allowance, and no further word regarding them will be made in this Amendment.

Information Disclosure Statement

In the outstanding Office Action, the Examiner noted that the patents discussed in the "Background to the Invention" section of the present application's specification would not be considered unless they were submitted in a separate Information Disclosure Statement. Accordingly, a separate Information Disclosure Statement listing such patents is being filed with this Amendment.

Drawings

In the outstanding Office Action, the Examiner also objected to the drawings because they did not (1) show the "RF output stage", (2) show element "124", identified as a scissors-type handle assembly on page 7, line 10 of the application specification, and (3) show how element "69", a capacitor, is connected between elements "62A" and "62B", output connections described on page 5, lines 20 – 21 of the application specification.

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With regard to the "RF output stage", at page 2, lines 6 – 7, and page 3, lines 28 – 29 of the application specification, the generator is described as comprising, *inter alia*, "an RF output stage having at least a pair of RF output lines." It is clear from Figures 2, 11 and 12 of the present application that this pair of RF output lines is the pair of output lines 60C coupling the RF power oscillator 60 to the instrument 12 via switching circuit 62. As such, the application specification has now been amended at page 5, the second paragraph, beginning on line 17 after the heading "Description of the Preferred Embodiments", to state that "at least output lines 60C comprise an RF output stage."

With regard to reference numeral 124, Figure 3 of the application has now been amended to show that reference numeral 124 is the scissors-type handle assembly shown in Figure 3 that is comprised of a first handle 126 and a second handle 134. This amendment to Figure 3 of the application is based on the discussion in the paragraph on page 7 of the application specification, beginning at line 6.

With regard to capacitor 69, this element is shown in Figures 2, 11 and 12 of the application as being connected between the pair of output lines 60C coupling the RF power oscillator 60 to the instrument 12 via switching circuit 62. As such, the application specification has now been amended at page 5, the second paragraph, beginning on line 17 after the heading "Description of the Preferred Embodiments", to state that "capacitor 69 is connected between output lines 60C, as shown in Figures 2, 11 and 12." Accordingly, the Examiner's objections to the drawings should now be withdrawn.

Formal replacement drawings are being submitted with this Amendment. The formal drawings include additions of reference numerals that were previously omitted in the informal drawings filed with this application. They also show the addition of sensing circuit 84 in Figures 2, 11 and 12 to correspond with the changes to the detailed description of the invention added below in the specification to provide support for the sensing circuit recited in the claims as originally filed in the application.

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Specification

In the outstanding Office Action, the Examiner also objected to the specification because of certain informalities appearing at page 1, line 9, page 5, line 25, and page 6, line 9. The application specification has now been amended to make the changes to the specification suggested by the Examiner. Accordingly, the Examiner's objections to the specification should now be withdrawn.

Additional revisions to the application specification have been made as noted above to correct certain typographical errors in the specification and to specifically discuss in the detailed description of the invention the sensing circuit 84 identified in the summary of the invention and in the claims as filed with the application. It is believed that the changes to the specification and the corresponding changes to the drawings have not introduced any new matter into the application.

Claim Rejections - 35 U.S.C. §112

The Examiner also rejected claims 1 and 17 under 35 U.S.C. §112, first paragraph enablement requirement because the function of the claimed RF output stage is not clearly stated in the specification. As noted above, it is clear from Figures 2, 11 and 12 of the present application, and from the disclosure at page 2, lines 6 – 7, and page 3, lines 28 – 29 of the application specification, that the RF output stage is at least the pair of output lines 60C coupling the RF power oscillator 60 of the claimed RF generator to the instrument 12 via switching circuit 62. As such, the RF output stage has at least the function of coupling the RF power oscillator 60 of the claimed RF generator to the instrument 12. In view of the above noted amendment to the application specification at page 5, the second paragraph, beginning on line 17 after the heading "Description of the Preferred Embodiments", to state that "at least output lines 60C comprise an RF output stage," it is believed that the function of the RF output stage is now clear from the application specification, as amended. As such, the Examiner's rejection of claims 1 and 17 under 35 U.S.C. §112, first paragraph, should now be withdrawn.

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Claim Rejections - 35 U.S.C. §103

In the outstanding Office Action, the Examiner further rejected, under 35 U.S.C. §103(a), claims 1 – 5 and 17 as being obvious over Klett *et al.* (German Patent Application No. 4339049) in view of Wrublewski *et al.* (USP 6,174,309), and claims 11 and 14 as being obvious over Klett *et al.* in view of Wrublewski *et al.* as applied to claim 1, and further in view of Roos (USP 5,269,780). The Examiner's rejections are respectfully traversed.

For a claimed invention to be obvious over a combination of prior art references, the Federal Circuit has held that there must be some suggestion, motivation or teaching in the prior art that would have led one of ordinary skill in the art to combine the references to produce the claimed invention. *E.g., Ashland Oil, Inc. v. Delta Resins & Refracs.*, 776 F.2d 281, 293 (Fed. Cir. 1985). In this regard, the Federal Circuit has identified three possible sources for a motivation to combine references:

To prevent the use of hindsight based on the invention to defeat patentability of the invention, this court requires the examiner to show a motivation to combine the references that create the case of obviousness. In other words, the examiner must show reasons that the skilled artisan, confronted with the same problems as the inventor and with no knowledge of the claimed invention, would select the elements from the cited prior art references for combination in the matter claimed. This court has identified three possible sources for a motivation to combine references: the nature of the problem to be solved, the teachings of the prior art, and the knowledge of persons of ordinary skill in the art.

In re Rouffet, 47 U.S.P.Q.2d 1453, 1457-58 (Fed. Cir. 1998).

In combining the Klett *et al.* and Wrublewski *et al.* references used to reject claims 1 – 5 and 17 under §103(a), the Examiner does not rely on the teachings of the prior art references themselves or the knowledge of persons of ordinary skill in the art to justify the combinations he has cited in his §103(a) rejection. Rather, the Examiner appears to be looking to the nature of the

problem to be solved to justify the combinations of references he has made. In this regard, the Examiner argues that "[i]t would have been obvious to one of ordinary skill in the art at the time of the invention to provide the system of Klett *et al.* with the switching device as taught by Wrublewski *et al.* because having multiple electrodes to cut and coagulate tissue would require a mechanism to select the electrodes for the required function." October 20, 2005 Office Action, pages 7 and 10. (Emphasis added.) The Examiner's arguments fails for two reasons.

First, the teachings of the primary Klett *et al.* reference cited by the Examiner fail to support the Examiner's reasoning leading the cited combination of references. The German patent to Klett *et al.* discloses a surgical system that includes a high frequency generator for generating high frequency voltages and a plurality of high frequency surgical instruments that may be connected simultaneously or sequentially to the high frequency generator. *See, e.g.*, Klett *et al.*, pages 2 and 11 – 12. Even though a plurality of high frequency surgical instruments may be connected simultaneously to Klett *et al.*'s high frequency generator, the Examiner, nevertheless, admits that Klett *et al.* do not disclose the switching circuit of independent claims 1 and 17 of the present application. October 20, 2005 Office Action, pages 7 and 10.

Second, even assuming, *arguendo*, that the Examiner properly combined the cited references, the result would not necessarily lead to the switching circuit of independent claims 1 and 17 of the present application, as evidenced by the adaptor unit 4 shown in Figure 1 of , which the Examiner contends is the switching circuit of independent claims 1 and 17 of the present application. It is not. As such, it must be concluded that the claimed invention of the present application is not obvious over the cited references because the resulting combination still would not be the claimed invention, since such references do not disclose or suggest the claimed switching circuit.

The German patent to Klett *et al.* discloses a surgical system that includes a high frequency generator for generating high frequency voltages and a plurality of high frequency surgical instruments that may be connected simultaneously or sequentially to the high frequency generator. The high frequency generator is described as having different operating modes for cutting and/or coagulating. The high frequency surgical instruments are described as mono-functional, bi-functional, or multifunctional instruments for monopolar, bipolar, or quasi-bipolar

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cutting and/or coagulating of tissue. The surgical instruments are further described as being equipped with an electric or electronic coding device that is connected to a decoding device which converts the coding of the surgical instruments into electric signals used to configure the high frequency generator to a mode of operation corresponding to the respective coding of the instrument or instruments connected to the generator.

Thus, Klett *et al.* disclose a generator system with an electrode identification capability. They disclose the identification of monopolar and bipolar instruments, and whether those instruments are for cutting or coagulating (or both). They do not specifically disclose the identification of instruments with more than two electrodes, much less any system having the capability of switching the electrodes to which different signals are delivered. As noted above, in the outstanding Office Action, the Examiner acknowledged that Klett *et al.* do not disclose a switching circuit recited in independent claims 1 and 17 of the present application.

The Examiner seeks to overcome this deficiency in the teachings of Klett *et al.* by looking to Wrublewski *et al.*, and, in particular, at col. 5, ln. 6 to col. 6, ln. 4 of Wrublewski *et al.*, as showing the claimed switching circuit. However, a review of Wrublewski *et al.* reveals that they do not disclose the claimed switching circuit.

Wrublewski *et al.* disclose a cut and seal surgical tool 100 with a pair of scissor-like arms 101 and 102 that pivot at a pin 110 to bring their jaw ends 101a and 102a together about tissue which is to be cut and sealed. As shown in Figure 1 of Wrublewski, the jaw end of tool 100 includes a sealing electrode portion (not numbered) extending from the very tip to several centimeters inboard toward the proximal end, and an electrosurgical cutting blade 105 positioned in a central plane through the clamping jaw of the device so that it is urged against tissue in the clamped plane. The jaw 102a forms a common electrode surface for RF coagulating and cutting electrodes of the jaw 101a.

As shown in Figure 2 of Wrublewski, in the handle of the arm 101 is an RF plug or connector 121 that connects a wire 121a to a conductive retainer and spring arm of the cutting blade 105. In addition, an RF common connector or plug 123 attaches to the conductive arm 102 to form a return path that is a large metal structure which generates little localized heating.

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Similarly, RF sealing electrodes 101c and 101d in arm 101 are supplied by an RF ceiling plug or connector 102 which energizes the body of the arm 101 in its entirety.

The adaptor unit 4 shown in Figure 1 Wrublewski, which the Examiner equates to the switching circuit recited in claims 1 and 17 of the present application, is not the claimed switching circuit. Adaptor unit 4 is a pair of transformers with parallel primary and respective secondary windings that convert the output of an electrosurgical generator 2 into two drive signals having distinct impedance and signal energy characteristics. Wrublewski, col. 3, lns. 38 – 42. The first transformer with a large number of turns and high potential is applied to the connector 121 for the RF cutting blade 105 and common connector 123, while the second transformer with lower potential winding of fewer turns is connected to the connector 121 (arm 101) and common connector 123 (arm 102) for powering the sealing electrodes 101c and 101d shown in Figure 3A. *See* Wrublewski, col. 4, lns. 23 – 47. Although Wrublewski mentions that "[i]n other or further embodiments, the drive circuitry can include control and switching circuitry, which may for example first apply energy to the sealing portion of the device" and then apply "energy to the cutting portion" of the device, Wrublewski, col. 5, ln. 61 – col. 6, ln. 4, nowhere does Wrublewski show or describe the switching circuitry described in independent claims 1 and 17, as noted above. Nowhere do Wrublewski *et al.* disclose or suggest either (1) "a switching circuit having at least three output connections, at least two being in electrical connection with respective ones of the at least two electrodes, . . . the switching circuit being operated to connect the RF output lines to two or more of the at least three output connections, depending on the particular identification element carried by the instrument," as recited in amended independent claim 1, or (2) "a switching circuit having at least three output connections, the switching circuit being operated, such that when the sensing circuit senses an identification element indicating an electrosurgical instrument having two electrodes, the switching circuit is set to a first mode of operation, and when the sensing circuit senses an identification element indicating an electrosurgical instrument having at least three electrodes, the switching circuit is set to a second mode of operation," as recited in amended independent claim 17.

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In dealing with claim 5, the Examiner asserts that the Klett *et al.* reference reads on this claim. However, nowhere in Klett *et al.* is there a specific reference to the use of a peak generator output voltage as a means of controlling the generator output.

In sum, Wrublewski *et al.* disclose an instrument with three electrodes, but nowhere do Wrublewski *et al.* suggest the use of an identification element. Nowhere do Klett *et al.* suggest the use of three electrode instruments, or the switching of different signals between different pairs of electrodes. Thus there is no motivation in these references to combine them. Indeed, the Examiner is using hindsight in a effort to arrive at claimed invention. For the reasons discussed above, even if the combination of Klett *et al.* and Wrublewski *et al.* were properly made, the result would still not be the claimed invention. As such, clearly independent claims 1 and 17 are not obvious over the combination of Klett *et al.* and Wrublewski *et al.* And because independent claims 1 and 17 are not obvious over this combination of references, dependent claims 2 – 5, which depend from independent claim 1 are also not obvious over this combination of references. The same is true of dependent claims 11 and 14, which were rejected as being obvious over Klett *et al.* in view of Wrublewski *et al.* as applied to claim 1, and further in view of Roos, since Roos does not disclose or suggest the claimed switching circuit, it having been cited for disclosing electrodes in the form of a hook.. *See* October 20, 2005 Office Action, pages 10 and 11.

Double Patenting

In the outstanding Office Action, the Examiner also rejected claims 1 and 11-26 under the judicially-created Doctrine of Obviousness-type Double Patenting as being unpatentable over claims 1-4 and 11-16 of U.S. Patent No. 6,929,641 to Goble *et al.*, in view of Klett *et al.* To overcome the double patenting rejection, a terminal disclaimer is being filed with this Amendment with respect to the ‘641 Goble patent. In view of the filing of the terminal disclaimer, the Examiner’s double patenting rejection should be withdrawn.

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Conclusion

In view of the foregoing, it is believed that all of the claims pending in the application, *i.e.*, claims 1 – 5 and 11 – 18 are now in condition for allowance, which action is earnestly solicited. If any issues remain in this application, the Examiner is urged to contact the undersigned at the telephone number listed below.

Respectfully submitted,

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AMENDMENTS TO THE DRAWINGS

Submitted with this Amendment are formal, replacement drawings for all of the Figures in the drawings. The attached sheets of formal, replacement drawings include changes to Figures 2, 3, 5A, 5B, 11 and 12. The sheets, which include Figures 1-12, replace the original informal sheets of drawings, including Figures 1-12.

In Figure 2, sensing circuit 84 has been added, and is shown as being part of controller 72.

In Figure 3, previously omitted reference numeral -- 124 -- has been added.

In Figures 5A and 5B, previously omitted reference numerals -- 60C -- have been added.

In Figure 11, sensing circuit 84 has been added, and is shown as being part of controller 72. In addition, previously omitted reference numerals --12, 80, 81 and 82 -- have been added.

In Figure 12, sensing circuit 84 has been added, and is shown as being part of controller

72. In addition, previously omitted reference numerals -- 12, 80, 81 and 82 -- have been added.

Marked up copies of the foregoing Figures showing the above-noted changes are attached as an appendix to this Amendment.

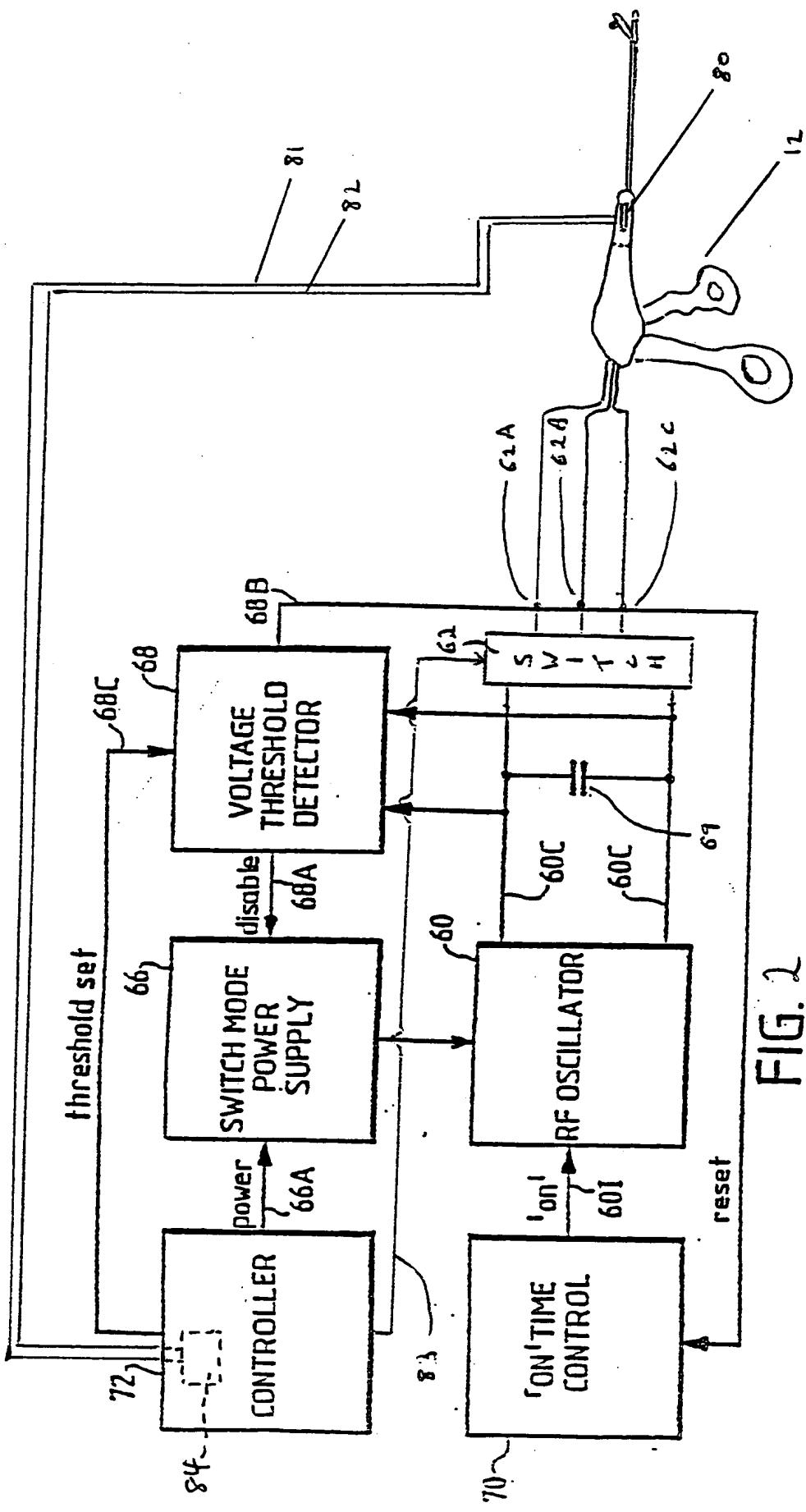
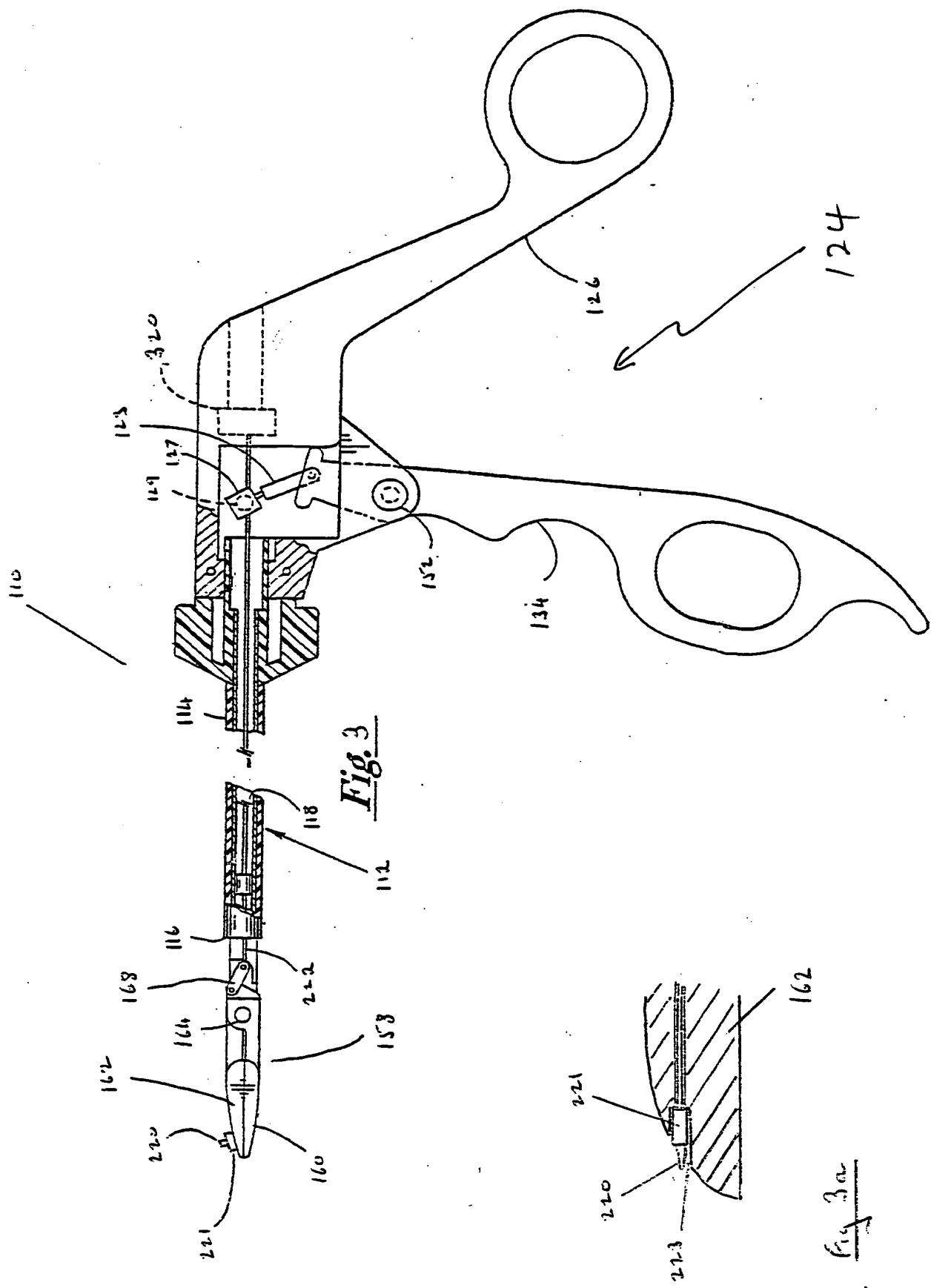


FIG. 2



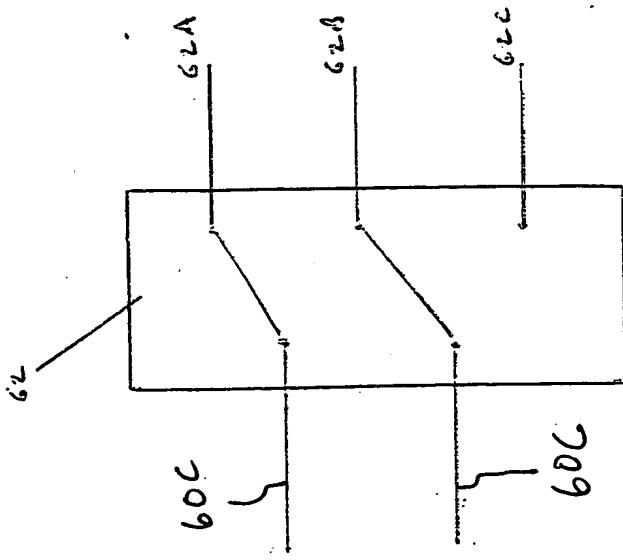


Fig. 5B

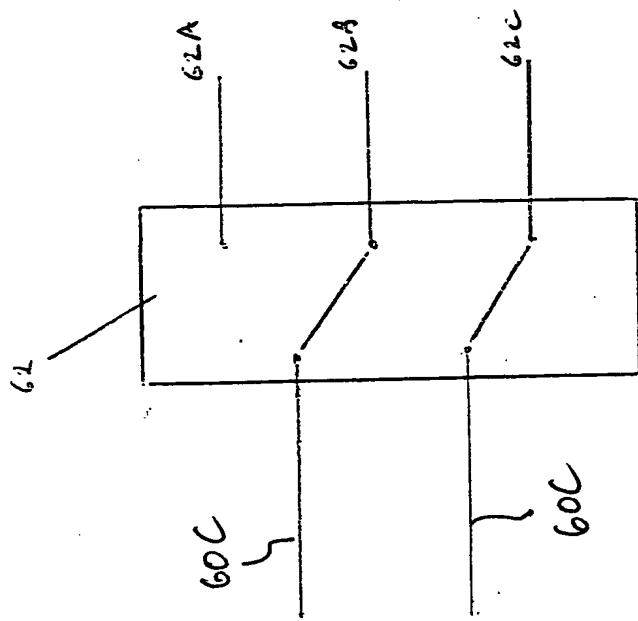


Fig. 5A

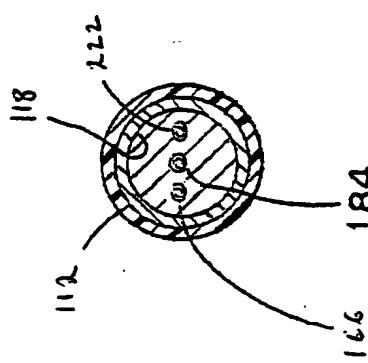


Fig. 4

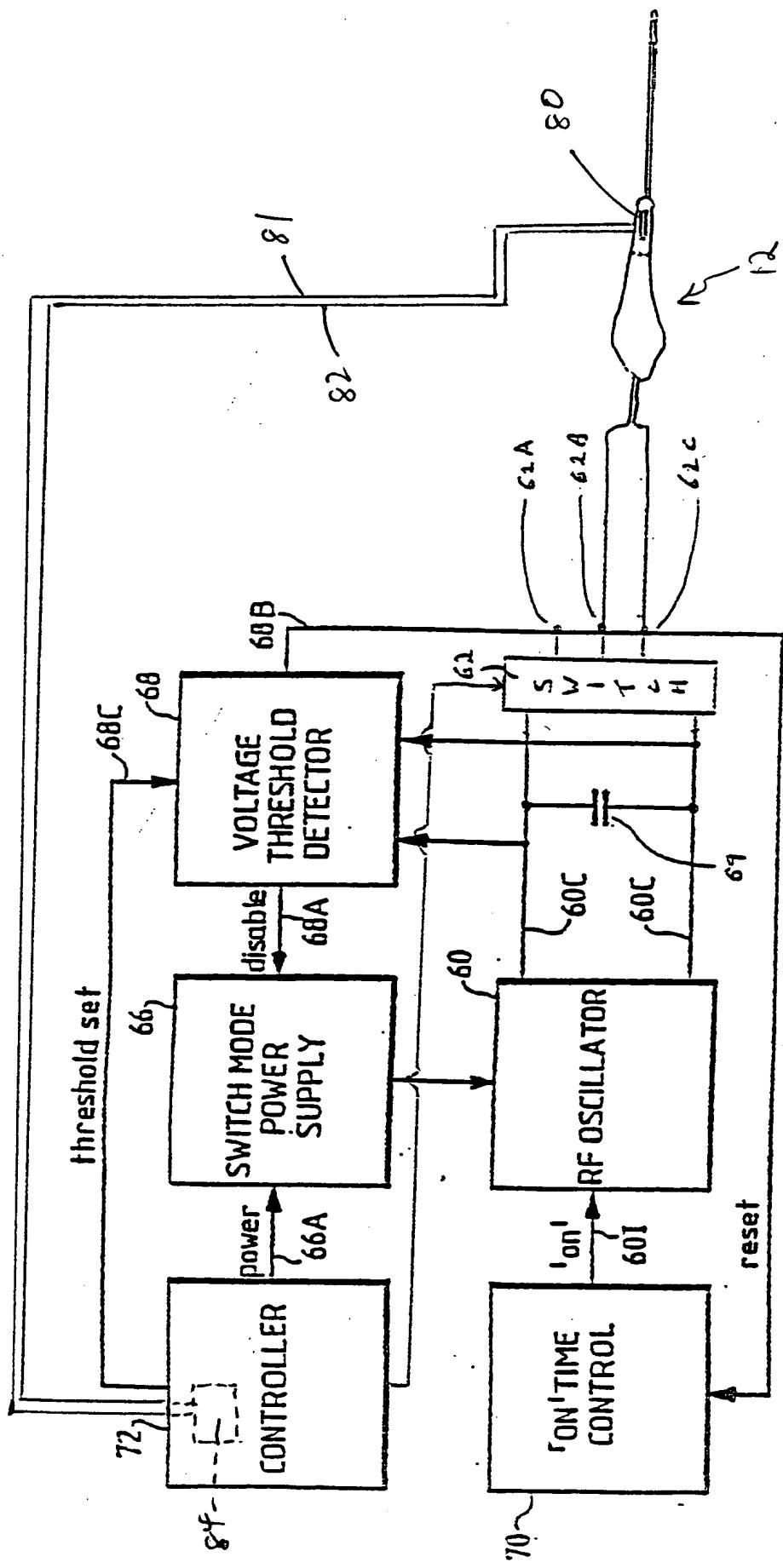


FIG. II

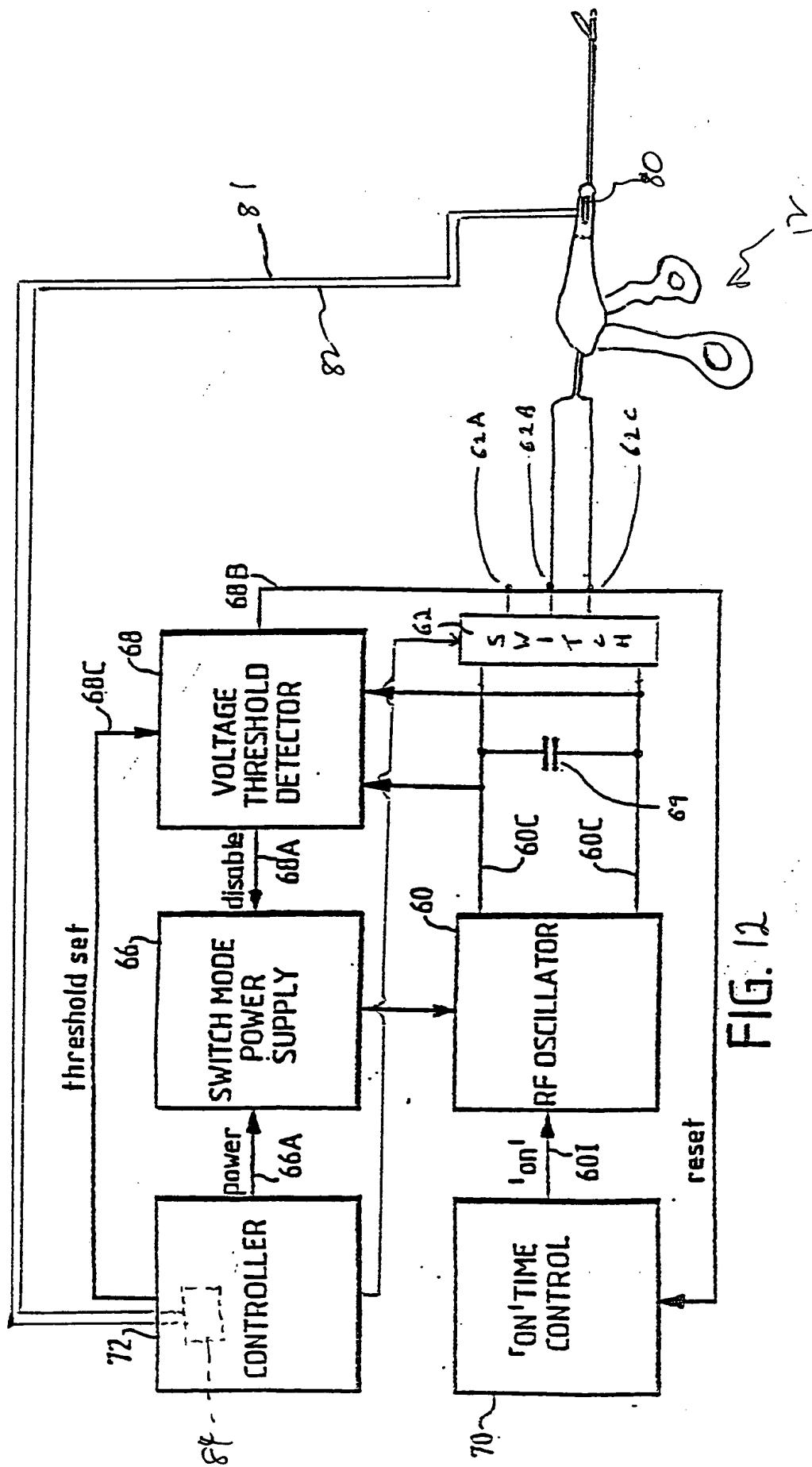


FIG. 12